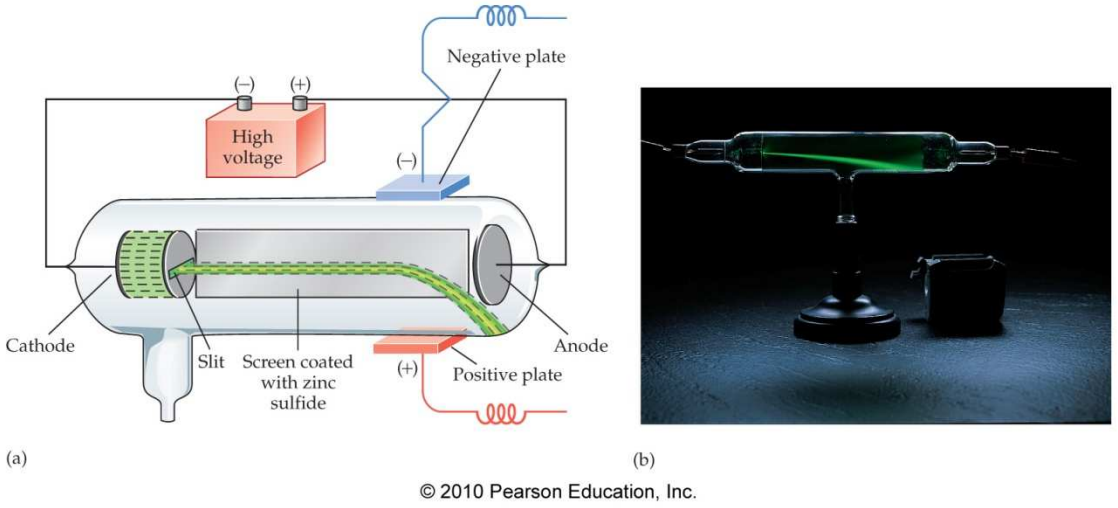
Chapter 3
Atomic Structure: Images of the Invisible

Experiments by J. J. Thomson showed that cathode rays are composed of what elementary particles?



a. Protons
b. Electrons
c. Neutrons
d. Alpha particles
e. Positrons

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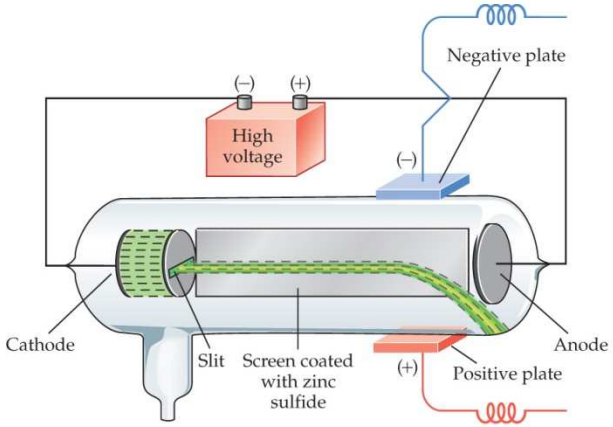

(a)

(b)

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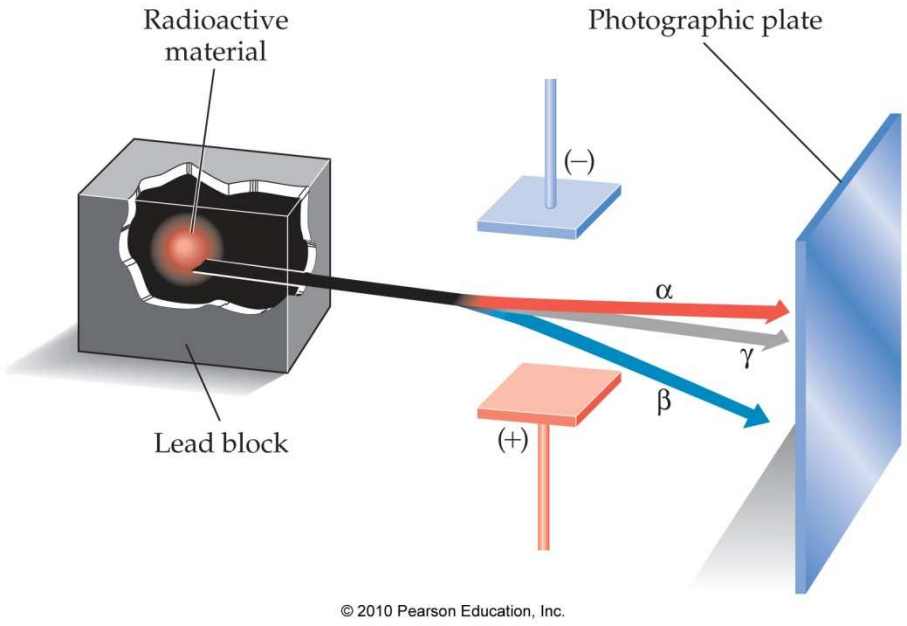
A helium nucleus that is emitted during some radioactive decay processes is also called a(n):



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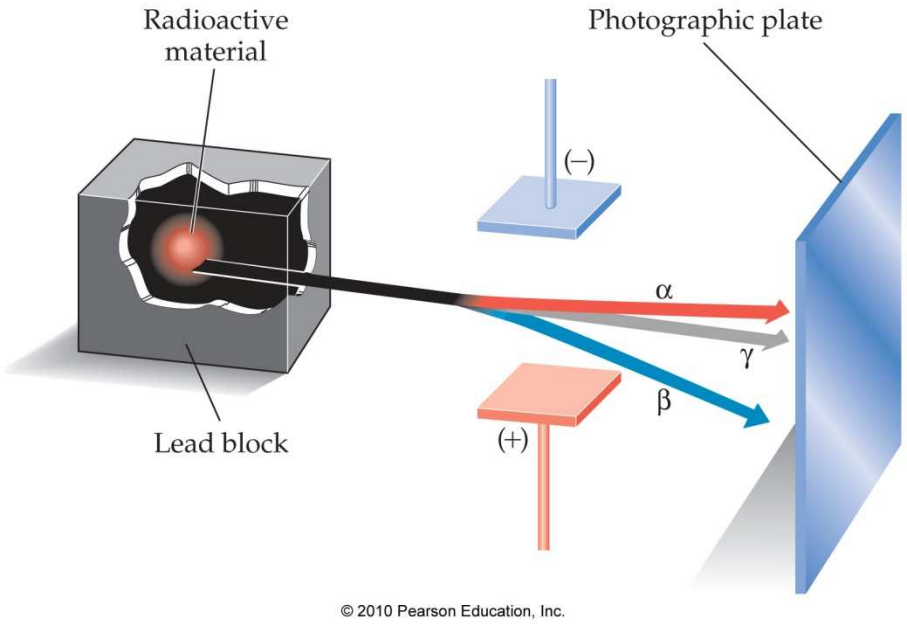

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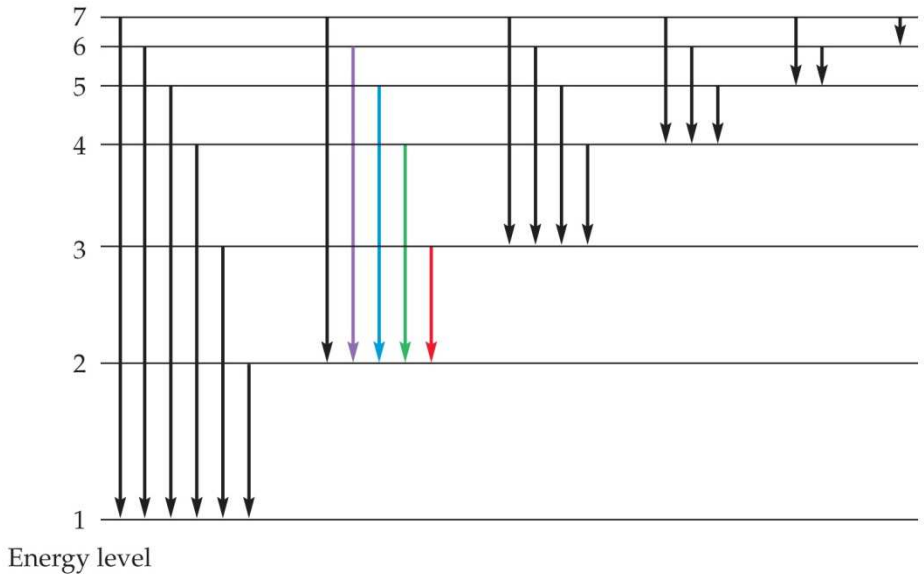
Which of these electronic transitions would result in the *emission* of visible light (where *n* = energy level)?



a. $n = 5$ to $n = 2$

b. $n = 2$ to $n = 5$

c. $n = 3$ to $n = 1$

d. $n = 7$ to $n = 3$

e. $n = 4$ to $n = 1$

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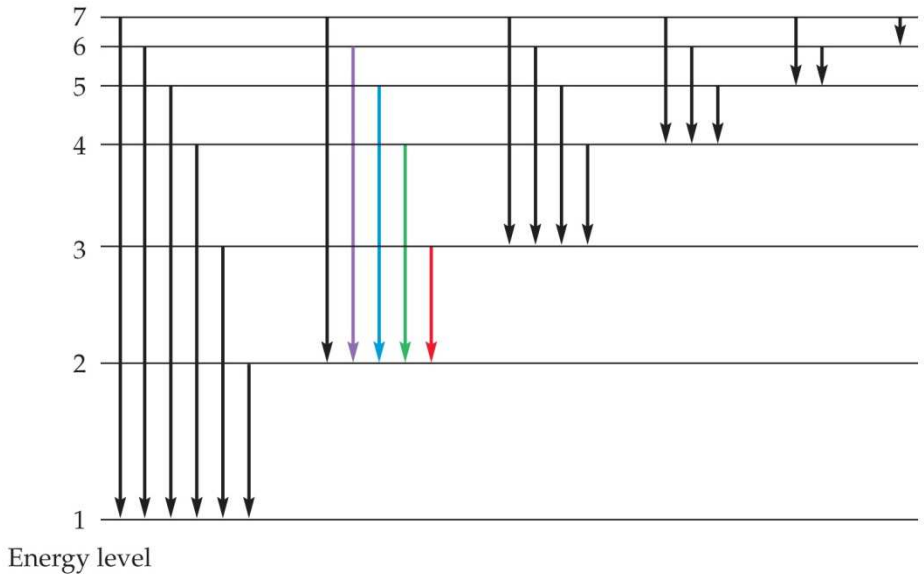

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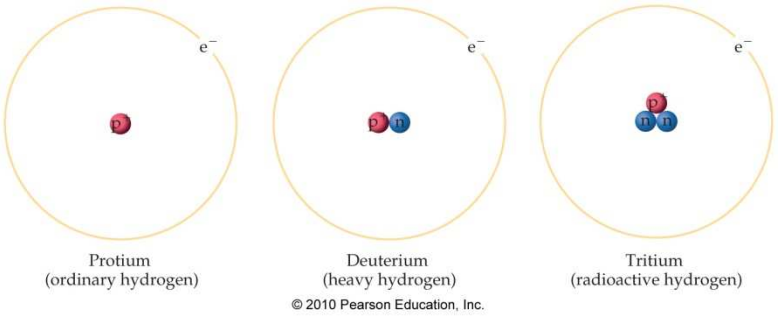

a. Atomic number
b. Nuclear charge
c. Number of electrons in the neutral atom
d. Atomic mass
e. Chemical properties

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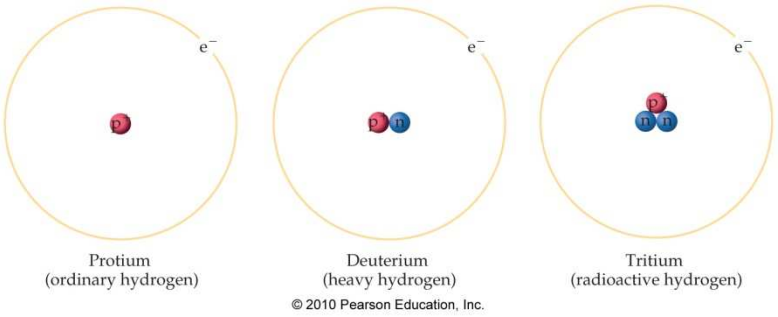

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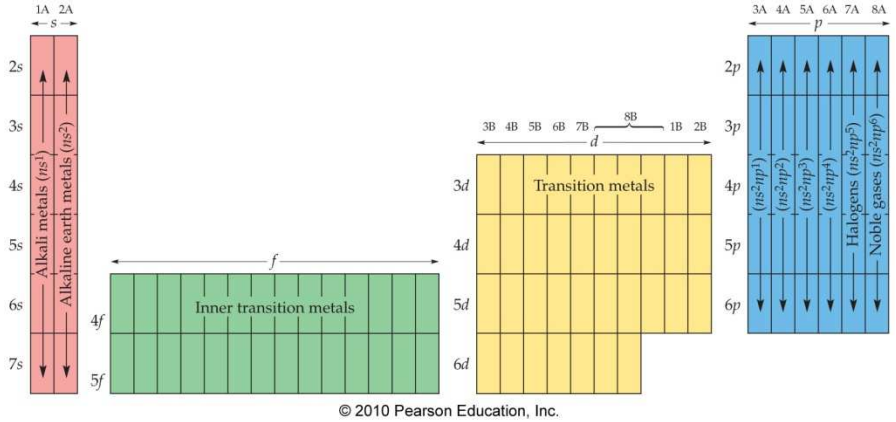

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b. The same total number of electrons
c. Similar atomic masses
d. Similar appearances and physical properties
e. Different numbers of valence electrons

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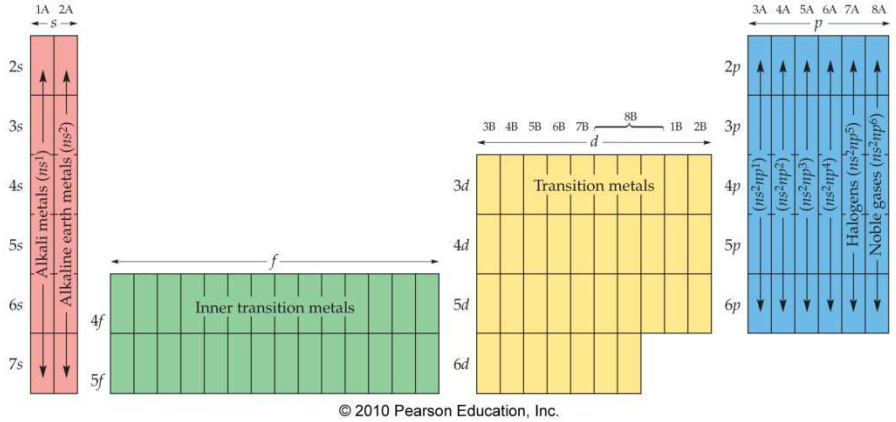

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